

**Notice of Allowability**

Application No.

10/058,538

Examiner

James Mackey

Applicant(s)

GIRARD ET AL.

Art Unit

1722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on 04 May 2004.
2. ☒ The allowed claim(s) is/are 7-15.
3. ☒ The drawings filed on 28 January 2002 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),  
Paper No./Mail Date \_\_\_\_\_
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

James Mackey  
Primary Examiner  
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1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. The application has been amended as follows:

The amendment filed on 04 May 2004 uses the incorrect claim identifier ("previously amended") for claims 7, 9 and 12-15. The following is a complete set of the claims, corresponding to the claims presented in the amendment filed on 04 May 2004, with the correct claim identifiers:

1. (cancelled)

2. (cancelled)

3. (cancelled)

4. (cancelled)

5. (cancelled)

6. (cancelled)

7. (previously presented) A mold for a green tire comprising a tread, two beads each having a radially inward-facing bead base extending from an axially outer heel to an axially inner toe, and two sidewalls extending between the beads and the tread; the mold comprising:

first and second sidewall plates for molding, respectively, an outer surface of each of the sidewalls plus an axially outer portion of each of the beads approximately in to the heel;

first and second bead molding rings for molding at least the bead bases of the two beads; and

an inflatable vulcanizing membrane for molding the inside surfaces of the tire;

wherein at least a first bead molding ring is characterized in that:

the first bead molding ring comprises a plurality of segments, half of the segments being first segments that are complementary to, and circumferentially alternated with second segments;

the first segments are wedge shaped, having circumferentially lateral faces that converge towards a radially outward-facing bead molding surface of the first bead molding ring, the first segment lateral faces being planar and oriented in the axial direction;

the second segments have lateral faces that are complementary to the first segment lateral faces;

means are provided for radially expanding the first bead molding ring from a first outside diameter to a second outside diameter, thereby forming a circumferentially continuous radially outward-facing surface for molding one of the beads in cooperation with an adjacent first sidewall plate and the vulcanizing membrane;

guide rods restrict first and second segments to radial movement only; each guide rod being mounted in a radially aligned mounting hole bored in a one of the first and second segments, and each mounting hole being aligned with a guide hole bored in the adjacent first sidewall plate such that the guide rod slides within the radially-aligned guide hole; and

springs are preloaded to force radially-inward movement of the first and second segments; each spring residing in a radially aligned spring holding hole bored in the adjacent first sidewall plate and aligned with a spring pocket cut in an adjacent one of the first and second segments, so that a spring can be positioned with one end in the spring holding hole and the other end in an adjacent spring pocket.

8. (original) A mold according to claim 7, further characterized by:

an assembly comprising the first sidewall plate, all of the plurality of first segments and second segments, all of the guide rods, and all of the springs;

wherein the assembly is held together by stop bolts extending from a side of at least one of the guide rods, each stop bolt protruding into a cavity adjoining a portion of the corresponding guide hole.

9.(previously presented) A mold according to claim 7, further characterized by:

a cam surface on the radially inner portion of the first and second segments of the bead molding ring, wherein the cam surface slopes radially inward and axially outward at a cam angle to form an annular surface complementary to a frustraconical section; and

a cam attached to an axially-moving part of the mold press such that the cam interacts with the cam surfaces of at least the first segments to wedge the first segments radially outward as the cam moves in an axial direction.

10. (original) A mold according to claim 9, further characterized in that:

the cam is a ring with a frustraconical radially outer cam surface that has a cam angle that matches the cam angle of the cam surfaces of the bead molding ring.

11. (original) A mold according to claim 10, further characterized in that:

the cam is attached to a clamp ring for clamping one end of the vulcanizing membrane.

12. (previously presented) A mold according to claim 7, further characterized in that:

the second bead molding ring is structurally equivalent to the first bead molding ring, such that the second bead molding ring is characterized in that:

the second bead molding ring comprises a plurality of segments, half of the segments being first segments that are complementary to, and circumferentially alternated with second segments;

the first segments are wedge shaped, having circumferentially lateral faces that converge towards a radially outward-facing bead molding surface of the first bead molding ring, the first segment lateral faces being planar and oriented in the axial direction;

the second segments have lateral faces that are complementary to the first segment lateral faces;

means are provided for radially expanding the second bead molding ring from a first outside diameter to a second outside diameter, thereby forming a circumferentially continuous radially

outward-facing surface for molding one of the beads in cooperation with an adjacent second sidewall plate and the vulcanizing membrane;

guide rods restrict first and second segments to radial movement only;

each guide rod being mounted in a radially aligned mounting hole bored in a one of the first and second segments, and each mounting hole being aligned with a guide hole bored in the adjacent second sidewall plate such that the guide rod slides within the radially-aligned guide hole; and

springs are preloaded to force radially-inward movement of the first and second segments;

each spring residing in a radially aligned spring holding hole bored in the adjacent second sidewall plate and aligned with a spring pocket cut in an adjacent one of the first and second segments, so that a spring can be positioned with one end in the spring holding hole and the other end in an adjacent spring pocket.

13.(previously presented)A mold according to claim 7, further characterized in that:

the second bead molding ring is a non-segmented, non-expandable, continuous ring that is movably attached to the center post of the mold.

14.(previously presented)A mold according to claim 13, wherein the tire to be molded has asymmetric bead diameters such that a first bead has a first bead diameter and a second bead has a second bead diameter less than the first bead diameter, the mold further characterized in that:

the second bead molding ring has an outside diameter sized for molding the second bead;  
and

the retractable first bead molding ring has the retracted first outside diameter less than or equal to the first bead diameter, and the expanded second outside diameter is sized for molding the first bead.

15.(previously presented)A mold according to claim 7, further characterized in that:

the first and second bead molding rings are shaped for molding beads with undercut bead

bases.

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16. (cancelled)

17. (cancelled)

18. (cancelled)

19. (cancelled)

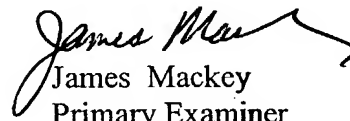
20. (cancelled)

21. (cancelled)

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Mackey whose telephone number is 571-272-1135. The examiner can normally be reached on M-F, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
James Mackey  
Primary Examiner  
Art Unit 1722

5/14/04

jpm  
May 14, 2004